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June 24, 2004

Via E-Mail sjrdotmdl@rb5s.swrcb.ca.gov
Mr. Mark Gowdy
Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

RE: ***Draft Final Staff Report, Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control Program for Factors Contributing to the Dissolved Oxygen Impairment in the Stockton Deep Water Ship Channel (24 May 2004)***

Dear Mr. Gowdy:

The San Joaquin River Exchange Contractors' letter dated May 14, 2004 regarding the proposed Basin Plan Amendments for the Control Program for Dissolved Oxygen Impairment in the Stockton Deep Water Ship Channel has not been adequately addressed by the Regional Board staff. In fact the staff report and proposed Basin Plan Amendments have been revised to place the ultimate responsibility for curing the dissolved oxygen (DO) impairment caused by the Stockton Deep Water Ship Channel (DWSC) on dischargers, including those from the upper watershed, upstream of Stockton. Placing the ultimate responsibility on parties that are not the proximate cause of the problem is counter to law, constitutes a taking of property in violation of the United States and California Constitutions, and is a violation of the most basic argument that there must be evidence of a causal link before assessing responsibility. The excavation of the DWSC is the supervening cause of the DO impairment in the DWSC. Therefore those responsible for building the DWSC should be held solely responsible for solving the problem. For the reasons stated in our May 14, 2004 letter, and those stated below, the Exchange Contractors urge the Regional Board to reject the staff report and proposed Basin Plan Amendments and work toward placing the responsibility for solving the problems caused by the Stockton Deep Water Ship Channel on the parties responsible for its artificial excavation.

Summary of May 14, 2004 Comment Letter

The parties that contribute to algae loads in the San Joaquin River are not responsible for solving the DO problem in the DWSC for the following reasons:

- The lower San Joaquin River has contained naturally occurring algae for hundreds of years.
- Significant agricultural production has been in existence in the San Joaquin River watershed since the 1800's and the discharges from these farming activities have consistently contained nutrients sufficient to sustain algae growth in the River and adjoining sloughs.
- Algae are a natural and necessary part of the food chain in the lower San Joaquin River. The ecosystem would be harmed by eliminating nutrients and algae in the River.
- There is not a low DO problem in the San Joaquin River upstream of the DWSC.
- Experts do not understand the dynamics of upper watershed loading on the DO problem in the DWSC. Algae originating from nearly 100 miles upstream may not actually contribute to the DO problem in the DWSC.
- The unnatural depth of the DWSC kills algae in the River and turns oxygen producing live algae into oxygen demanding decaying algae.
- The San Joaquin River channel was approximately 10 feet deep in the Delta prior to the establishment of the DWSC. The first excavation of the DWSC to a depth of 26 feet was completed in 1933. In the late 1960's the Corp of Engineers began a project to deepen the DWSC but it was halted due to environmental concerns. In 1982 the Corp of Engineers resumed deepening the DWSC to 37 feet after promising to mitigate for inevitable DO problems caused by the depth of the channel. In 1987 the Corp of Engineers finished the excavation of the DWSC to 37 feet. (Port of Stockton Web Site) These artificial improvements are the ultimate cause of the DO problem and resulting water quality impacts.

The DWSC is the Proximate Cause of the DO Problem in the DWSC

The United States Army Corp of Engineers (USACOE) excavation of the DWSC and their continued maintenance dredging of the DWSC is the proximate cause of the DO problems in the DWSC. Algae loads have existed in the San Joaquin River for hundreds of years. These algae loads are an essential component of the San Joaquin River and estuary ecosystem. By building the DWSC in the middle of the San Joaquin River the USACOE caused the DO problem. This act was subsequent to algae's existence in the River, upstream farming operations and many upstream diversions. The USACOE further exacerbated this problem by deepening the channel to 37 feet in the late 1980's. Their continual maintenance dredging of the channel prevents the natural process of sediment deposition for remedying the DO problem by slowly filling in the channel. The USACOE conduct constitutes a supervening cause that makes it the legal

proximate cause of the DO problem in the DWSC. Both legal theory and equitable principles dictate that the USACOE should be held solely responsible for solving the problem that they created. Fortunately, the cost of installing and maintaining adequate aeration facilities is reasonable and well within the USACOE's ability to pay. Construction costs for the facilities are available through bond funding and the operations and maintenance cost are estimated to be approximately $200,000 - $400,000 per year. Aeration projects are underway that will determine the proper size, method and cost of the aeration based solution.

An Amendment to the Water Quality Control Board Plan purporting to allocate responsibility for a pollution condition in the form of TMDL's must have an evidentiary base. This record is devoid of an evidentiary base. In order to be valid and enforceable, the record under which a plan is adopted must: (1) enunciate it's reasoning, logical and causal links in a factual form; and, (2) include sufficient evidentiary support to show the causal relationship between the acts or omissions of a party and its responsibility or burden to meet the requirements placed upon it. Strumsky v San Diego County Employees Retirement Association 1974 11 C.3d 28, 29. This rule equally applies to orders of Regional Water Quality Control Boards. Southern Cal Edison v SWRCB 116 C.A.3d 751, 759 (1981). This record cannot be tortured to rationally support the conclusion that the responsibility for low dissolved oxygen levels in the DWSC should be borne by upstream landowners and water users.

The Regional Board and its staff understand that the dredging of the ship channel has turned algal flows, which are a benefit to Delta ecosystem, into a detriment which strips water of its oxygen. If there is any doubt about this fact after reviewing the Staff Report, we would offer to make it abundantly clear through cross examination of the staff or other experts. Please consider this offer of proof. Given either current or historical algal flows in the San Joaquin River, without the Ship Channel functioning as a "sink" stripping oxygen out of the water, there would be no DO problem in the River. Further, although flow characteristics and timing of flows through the San Joaquin River may have changed over the years, the evidence is that "but for" the ship channel, dissolved oxygen impairments would not occur. Additionally, as an offer of proof, we can extract from documents and examination of Regional Board staff the fact that dissolved oxygen impacts are not found above or below the DWSC and that the depth and configuration of the ship channel, which was designed for its shipping advantages and relative low cost of construction, causes the oxygen depletion.

We can also show that the Army Corps of Engineers (USACOE) prepared studies pursuant to NEPA in regard to its dredging work in 1980's. The Environmental Impact Statement titled, San Francisco Bay to Stockton (John F. Baldwin and Stockton Ship Channels) Interim General Design Memorandum and Final Environmental Impact Statement. (September 1980) stated that post dredging monitoring would document the dredging caused DO impacts in the DWSC and

appropriate remedial actions would be implemented. The Environmental Assessment and Finding of No Significant Impact (FONSI) San Francisco Bay to Stockton Ship Channel: Dissolved Oxygen Mitigation Implementation (May 1990) reaffirmed that commitment. The findings and assurances were provided by the Corps to the EPA pursuant to NEPA.

The Regional Board should consider the decision of the United States Supreme Court in EPA v Calif (1976) 426 U.S. 200, 48 LEd2d 578, 96 S.Ct 2022 which held that Federal Projects were not subject to NPDES discharge permit authority of the State of California simply because the State regulatory program had been approved by EPA, but instead EPA was required to directly issue NPDES permits for Federal Projects and no project could move forward without an EPA permit. The Regional Board should ask the United States Army Corps of Engineers for their valid, current and enforceable NPDES Permit. If the permit issued by EPA does not include the mitigation measures that the USACOE committed to in the 1980 NEPA process, the Permit will not be in accordance with law. A 60 day notice can be given by the Regional Board of the intention to sue to enforce compliance with the NPDES permit conditions. The USACOE is subject to the same fines and penalties and payments of attorney's fees that a citizen would be subject to if it attempted to avoid its responsibility under a NPDES Permit. It is time to recognize that the federal government is a citizen who has been allowed to skate on its obligations for too long.

Staff Report is Devoid of Any Meaningful Policy Analysis

Initial Allocation of Responsibility Lacks Policy Analysis

The Staff Report refers to numerous technical and scientific documents but does not address the fundamental policy question raised by the DWSC DO situation. The staff's preliminary determination that the responsibility for solving the DO problem should be shared equally by three contributing factors is not supported by any policy analysis. The only rationale for this determination is a brief statement referring to "equitable and other considerations." (Page 2 May Staff Report) There is no indication of what, if any, policy consideration were made. In a matter as complicated as DO in the DWSC it is essential for the Board to address the fundamental policy consideration behind the ultimate decision. A mere reference to "equitable and other considerations" does not provide the Board with a record to make an informed policy decision.

The allocation of responsibility is not a scientific determination and must be considered with full policy analysis. Dr. Slawomir W. Hermanowicz made this observation in his May 2004 peer review comments on the Dissolved Oxygen TMDL Basin Plan Amendment Staff Report. In Item #4 of his comments, Dr Hermanowicz stated, "...there is no scientific basis for the equal allocation of TMDL. Such allocation, or another split may be justified in social or political terms if all three factors are recognized as controllable within the meaning of the CVRWQCB

Controllable Factors Policy." The CVRWQCB Controllable Factors Policy requires control of factors that can reasonably be controlled. The DO problem in the DWSC cannot be controlled by eliminating upper watershed discharges. Prohibiting these discharges will not eliminate algae growth in the River. Additionally, algae is a necessary part of the ecosystem and is a benefit to aquatic life. It would not be reasonable to require parties to control a discharge that will not solve the water quality impairment and that may result in adverse impacts in the ecosystem. Given that there is no scientific justification for these splits and there is no policy analysis on the issue the Regional Board's adoption of this division of responsibility would be arbitrary and capricious.

An example of how a court views an agency decision when the policy has no logical scientific underpinnings is Southern California Edison vs SWRCB 116 Cal App 3d 751 (1981). This case demonstrates that some scientific evidence is required and that it is necessary to place the legal responsibility on the party causing the problem for a Regional or State Board order to be upheld. Southern California Edison had developed an ocean intake for a nuclear power plant which discharged back to the ocean. The Regional Board attempted to apply "gross" discharge standards requiring this large, economically able party to conveniently bear the costs of removing constituents that it did not add to the ocean water rather than "net" requirements in which only constituents it added needed to be removed. The Court rejected the application requiring that some scientific and factual basis be presented that it was "necessary" to apply the cleanup responsibility in this manner. Mere convenience and ease was not considered sufficient by the Court.

The initial policy choice to divide responsibility equally among (1) loads (2) DWSC Geometry, and (3) reduced flow must be more thoroughly analyzed. Policy consideration such as the impact of removing nutrient and algae loads from the San Joaquin River must be considered. The North Bay is currently stressed by insufficient energy (i.e. nutrients and algae) coming from the Delta. Other segments of the Delta are also nutrient starved. Before the Regional Board adopts a Basin Plan Amendment that will further reduce these nutrients coming from the upper watershed they must understand the consequences of these actions. Given that algae is a natural and essential part of the food chain it would not be "equitable" to require upper watershed interests to help fix the DO problem simply because their discharges may benefit algae growth in the River. Fundamental fairness, equity, and prudent resource management dictates that upper watershed loading not be held responsible for solving the DO problem in the DWSC.

Allocation of Loading to Point and Non-point Sources Lacks Policy Analysis

Notwithstanding the fact that upper watershed loading should not be held responsible for solving any of the DO problem in the DWSC, the degree of responsibility allocated to upper watershed loads is not supported by any policy considerations. After inappropriately allocating

responsibility equally to three contributing factors, staff makes an additional error in allocating the loading responsibility between point and non-point sources. Staff makes the unsupported determination that TMDL loads should be allocated based upon historic contribution. They use historic data to estimate the loading from the City of Stockton's Regional Wastewater Control Facility (RWCF) and the loading from the upper watershed. They then allocate the allowable load to these sources (less a 10% reserve) based upon this historic loading. At no time does the staff attempt to justify this policy determination. Why should historic loading dictate appropriate TMDL allocations?

Regional Board staff did not make this error in the draft salinity TMDL. In the salinity process, staff considered various methods of allocating the available loading capacity among different sub-basins. They considered historic loads, cropping patterns and total acreage as the basis to divide TMDL loads. Ultimately, they rejected historic loading as the method to allocate load. In the DO TMDL Staff Report, this issue is not addressed. Staff simply allocates TMDL loads without any analysis of the merits of the method of allocating the loads. This allocation decision was based upon neither sound science nor prudent policy.

In looking at this aspect of a TMDL, it is imperative that one understands the policy implications of different allocation percentages. These relationships are not intuitive. If the allocation is for the ability to legally discharge net oxygen demand (NOD), then the larger the allocation percentage the greater the amounts that can be discharged. If the allocation is for excess net oxygen demand (ENOD), then the larger the allocation percentage the more reduction in NOD discharge is required. Staff refers to both NOD and ENOD in the Staff Report. Staff must make it clear what they are allocating and what policy considerations were used to make the allocations in order to appropriately assess responsibility on various parties.

<u>The Proposed Load Allocations Have Serious Technical Flaws</u>

The Staff Report and proposed Basin Plan Amendments make the same allocations to each loading source for both NOD and ENOD. (staff report Pages 40-42) This initial allocation is appropriate only if NOD loads are allocated based upon historic discharge. However the policy reasoning for allocating based on historic discharges is faulty and should be examined prior to adopting this Basin Plan Amendment.(see previous section) Notwithstanding the policy problems with an historic discharge NOD allocation, adopting equal NOD and ENOD allocation for each loading source only makes logical sense for the initial allocation. Once a party implements measures to reduce their NOD impacts and therefore eliminates ENOD, the ENOD allocation should go down while the NOD allocation would remain the same. If the ENOD allocation remains fixed in a Basin Plan Amendment, then a party mitigating for their NOD

discharge could never escape their obligation to reduce ENOD until they have mitigated for all the ENOD from all sources.

Under the proposed Basin Plan Amendment language, a party would continue to be held responsible for ENOD even if they are under their NOD allocation.

Addressing oxygen deficits in a TMDL format creates significant problems. TDML's were designed to create a regulatory framework to control discharges of a constituent into a waterbody that is causing an exceedance of a water quality objective. Dissolved oxygen impairments are caused by the removal of oxygen from the water. The fact that a constituent is being removed from the water turns the notion of a TMDL on its head. This TMDL is not designed to control a specific constituent that has a specific water quality objective that is being violated. It is unclear if this TMDL is consistent with EPA guidelines because of the fact that it does not address a specific constituent that is causing a violation of a specific water quality objective.

The nature of the Stockton DWSC DO problem further complicates the use of a TMDL because the ultimate cause of the problem is the excavation of the channel itself. The act of building the DWSC has nothing to do with loads. In fact most experts agree that this problem cannot be solved by controlling discharges into the River. Given the nature of the problem and its primary cause, a TMDL is not the best tool to solve this problem. In order to resolve this dilemma the staff has created the concept of excess net oxygen demand (ENOD). They have then allocated this ENOD to responsible parties. At the same time they allocate a load based concept of net oxygen demand (NOD). The existence of these two overlapping allocations creates significant confusion in the TMDL. The concept of ENOD is important in order to quantify and track the progress non-load related parties make toward solving the DO problem caused by the DWSC. It is very difficult to determine how the two concepts of NOD and ENOD can be incorporated into the same TMDL without creating confusion. However these problems can be avoided by making the logical initial policy determination that the parties responsible for excavating the DWSC are solely responsible for solving the entire DO problem in the DWSC.

The Margins of Safety are Not Justifiable

A 40% margin of safety (MOS) is used in this TMDL. 20% is based upon uncertainty in the accuracy of the flow measurement device immediately upstream of the DWSC. Another 20% is based upon the fact that there is a significant amount of technical uncertainty regarding the sources of oxygen demanding substances and their linkages to the DO impairment in the DWSC. Neither of these issues demand such a large margin of safety.

Dr. Slawomir W. Heranowicz raised this issue in section 3 of his peer review comments. He stated that the 20% MOS seems to overestimate flow inaccuracies at higher flows and that the

MOS should be expressed as a fixed value related to the stated inaccuracies of the velocity measurements. This overestimation of the MOS places unnecessary and unjustifiable burdens on the parties attempting to comply with this TMDL.

The 20% MOS based upon uncertainties regarding the sources of oxygen demanding substances is also unjustified. There is significant uncertainty regarding the impacts that upper watershed loads may have on the DO in the DWSC. It is unclear if these loads actually deplete DO in the DWSC. This uncertainty does not justify a greater MOS that further limits upstream discharges. If the staff's assumption is wrong and these loads do not impact DO in the DWSC then the base loading without any MOS would be totally unnecessary and therefore overly conservative. The staff's assumption that these load may contribute to the problem is an implicit MOS and no further explicit MOS is needed to account for this uncertainty.

In addition to these explicit and implicit MOS the TMDL allocates 10% of the load component to unknown sources. This "reserve allocation" serves as an additional MOS for the load component of the TMDL. Multiple MOS, even if individually justified, become unjustifiable when their cumulative effects are considered. The DO DWSC TMDL uses multiple MOS and the cumulative impacts of the multiple MOS are never analyzed. Regional Board should analyze the cumulative impacts of these multiple MOS before they adopt them in a Basin Plan Amendment.

Recommendation

The DWSC is the proximate cause of the low DO levels in the DWSC. Assessing any degree of responsibility on those who may contribute to algae growth is nonsensical and not supported by logic or science. The Regional Board has an obligation to assess responsibility on the party that has caused the problem and not to simply spread the pain to achieve political expediency. However, the Regional Board can and should take action to solve the DO problem in the DWSC.

Specifically **the Regional Board should**:

1. Force the U.S Army Corp of Engineers to mitigate the impacts caused by the DWSC
    a. Enforce the commitments made in the September 1980 EIS for the 35' excavation of the DWSC.
    b. Prohibit further maintenance dredging of the DWSC until all DO impacts in the DWSC are mitigated by the US Army Corp of Engineers.
    c. Investigate alternative methods of motivating US Army Corp of Engineers to solve the DO problem in the DWSC, such as enforcement of NPDES permit conditions for the 1980's dredging project. EPA has a legal responsibility to enforce NPDES requirement. The Regional Board should remind the EPA of this authority.

2. Follow the Dissolved Oxygen TMDL Steering Committee Implementation Plan dated February 4, 2003.
3. Allow time to complete studies currently being undertaken by the San Joaquin Valley Drainage Authority to help better understand the dynamic of algae in the River as they relate to loading in the DWSC and other related studies.
4. Allow time to complete aeration studies and the construct of an operable aerator as the ultimate solution to the DO problem in the DWSC. These projects are currently underway.
5. Allow Stakeholder time to develop a funding package for the Operation of an aerator in the DWSC once cost estimates are established by aeration feasibility studies.

The Regional Board should NOT:

1. Allocate responsibility for solving the DO problem in the DWSC as outlined in the proposed Basin Plan Amendment and staff report.
2. Adopt a Basin Plan Amendment with little to no policy analysis of the fundamental issues.
3. Place responsibility for solving the DO problem in the DWSC on parties that are not the proximate cause of the problem simply because of perceived inadequate statutory authority of the Regional Board to compel the party (USACOE) actually responsible for causing the DO problem in the DWSC.

The Exchange Contractors are committed to resolving water quality problems in the region. We continually demonstrate this commitment by our actions. As part of the San Joaquin Valley Drainage Authority, we are undertaking extensive studies (totaling $6.8 million) on the San Joaquin River to determine the dynamics of algae growth in the River. We plan to continue this proactive approach but adoption of this inequitable dissolved oxygen TMDL and Basin Plan Amendment will serve to undermine the credibility of the Regional Board and force us to redirect resources away from water quality improvement programs and toward needless appeals and litigation.

We ask the Regional Board to reject the simplistic allocation of responsibility proposed in the DO TMDL and Basin Plan Amendment, and, instead place the responsibility for solving the problems created by the construction of the Stockton Deep Water Ship Channel on those who made the decision to build the channel in the main stem of the San Joaquin River. The rest of

the water users in the basin must be allowed to focus their limited resources on other water quality problems in the basin.

Very truly yours,

Steve Chedester

Steve Chedester
Executive Director

cc: San Joaquin River Exchange Contractors Water Authority Members
State Water Resources Control Board Members
Regional Water Quality Control Board Members
Senator Jeff Denham
Senator Charles Poochigian
Senator Michael Machado
Congressman Dennis Cardoza
Congressman Richard Pombo
Congressman Devin Nunes
Congressman Cal Dooley
Assemblymember Barbara Matthews
Assemblymember Greg Aghazarian
Assemblymember Sarah Reyes
Assemblymember Dave Cogdill
Assemblymember Steve Samuelian
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Mr. Daniel Nelson, San Joaquin Valley Drainage Authority
Mr. Allen Short, San Joaquin River Group Authority
San Joaquin River Resource Management Coalition
San Joaquin River Task Force